

INJECTION WELL PERMIT APPLICATION: to drill, deepen, plug back, or convert an existing well

APPLICATION TO DRILL ☒ DEEPEN ☐ PLUG BACK ☐ CONVERSION ☐NAME OF COMPANY OR OPERATOR Prairie Energy Corporation DATE 6/7/828600 West 110th Street STE 202 Overland Park Kansas 66210
Address City State

DESCRIPTION OF WELL AND LEASE

Name of lease <u>MacLaughlin</u>		Well number <u>SWD #1</u>	Elevation (ground) <u>1040</u>
WELL LOCATION (give footage from section lines) <u>2002</u> ft. from (N) <u>S</u> sec line <u>1562</u> ft. from (E) <u>W</u> sec line			
WELL LOCATION Section <u>4</u> Township <u>46</u> Range <u>33</u>		COUNTY <u>Cass</u>	
Nearest distance from proposed location to property or lease line <u>632</u> feet		Distance from proposed location to nearest drilling, completed or applied — for well on the same lease <u>675</u> feet	
Proposed depth <u>930'</u>	Rotary or Cable tools <u>Rotary</u>	Drilling Contractor, name and address <u>Layne & Western</u>	Approx. date work will start <u>6/21/82</u>
Number of acres in lease <u>264</u>	Number of wells on lease, including this well, completed in or drilling to this reservoir: <u>3</u> Number of abandoned wells on lease: <u>unknown</u>		
If lease purchased with one or more wells drilled, from whom purchased? Name <u>N/A</u> Address _____		No of Wells: producing _____ injection _____ inactive _____ abandoned _____	
Status of Bond Single Well <input type="checkbox"/> Amt. _____		Blanket Bond <input checked="" type="checkbox"/> Amt. <u>\$30,000</u> <input checked="" type="checkbox"/> ON FILE <input type="checkbox"/> ATTACHED	
Outline Proposed Stimulation Program <u>Unknown at this point in time</u>			
Proposed casing program		Approved casing — To be filled in by State Geologist	
amt. <u>25'</u>	size <u>7"</u>	wt/ft <u>26.6</u>	cem. <u>6 sacks</u>
<u>900'</u>	<u>4 1/2"</u>	<u>10.5</u>	<u>140 sacks</u>
_____	_____	_____	_____
_____	_____	_____	_____
I, the undersigned, state that I am the <u>President</u> of the <u>Prairie Energy Corporation</u> (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.		Signature <u>Nicholas K. Powell</u>	

Permit Number

#20367

Approved Date

6/21/82

Approved by

Wallace B. Hargis

Note: This Permit not transferable to any other person or to any other location

☐ SAMPLES REQUIRED☐ SAMPLES NOT REQUIRED

WATER SAMPLES REQUIRED @ _____

RECEIVED

JUN 14 1982

Remit two copies to: Missouri Oil and Gas Council
P.O. Box 250, Rolla, MO 65401
One will be returned for driller's signature

MO. OIL & GAS COUN

Approval of this permit by the Oil and Gas Council does not constitute endorsement of the geologic merits of the proposed well nor endorsement of the qualifications of the permittee.

3/12/82

I _____ of the _____

Company confirm that an approved drilling permit has been obtained by the owner of this well. Council approval of this permit will be shown on this form by presence of a permit number and signature of authorized Council representative.

Driller's signature _____

Date _____

Proposed Operations Data

Proposed average daily injection, pressure 200 psig, rate 500 bpd/gpm, volume 500 bbl/gal

Approved average daily injection,
(to be filled in by State Geologist). pressure _____ psig, rate _____ bpd/gpm, volume _____ bbl/gal

Proposed maximum daily injection, pressure 350 psig, rate 1000 bpd/gpm, volume 1000 bbl/gal

Approved maximum daily injection,
(to be filled in by State Geologist). pressure _____ psig, rate _____ bpd/gpm, volume _____ bbl/gal

Estimated fracture pressure/gradient of injection zone unknown psi/foot

Describe the source of the injection fluid Squirrel formation water

Submit an appropriate analysis of the injection fluid. (Submit on separate sheet). Salt water est. 20,000 ppm chloride

Describe the compatibility of the proposed injected fluid with that of the receiving formations, including total dissolved solids comparisons.

Unknown, however, receiving formation will contain equal or greater amounts of dissolved solids

Give an accurate description of the injection zone including lithologic descriptions, geologic name, thickness, depth, porosity, and permeability.

Anticipate disposing in Burgess, Bartlesville or possibly in Mississippian formations, characteristics unknown prior to drilling.

Give an accurate description of the confining zones including lithologic description, geologic name, thickness, depth, porosity, and permeability.

Anticipate a permeability barrier to contain the injection zone

Submit all available logging and testing data on the well.

Give a detailed description of any well needing corrective action which penetrates the injection zone in the area of review ($\frac{1}{2}$ mile radius around well). Include the reason for and proposed corrective action.

none

3/12/82

Missouri Oil and Gas Council
INJECTION WELL LOCATION PLAT

RECEIVED

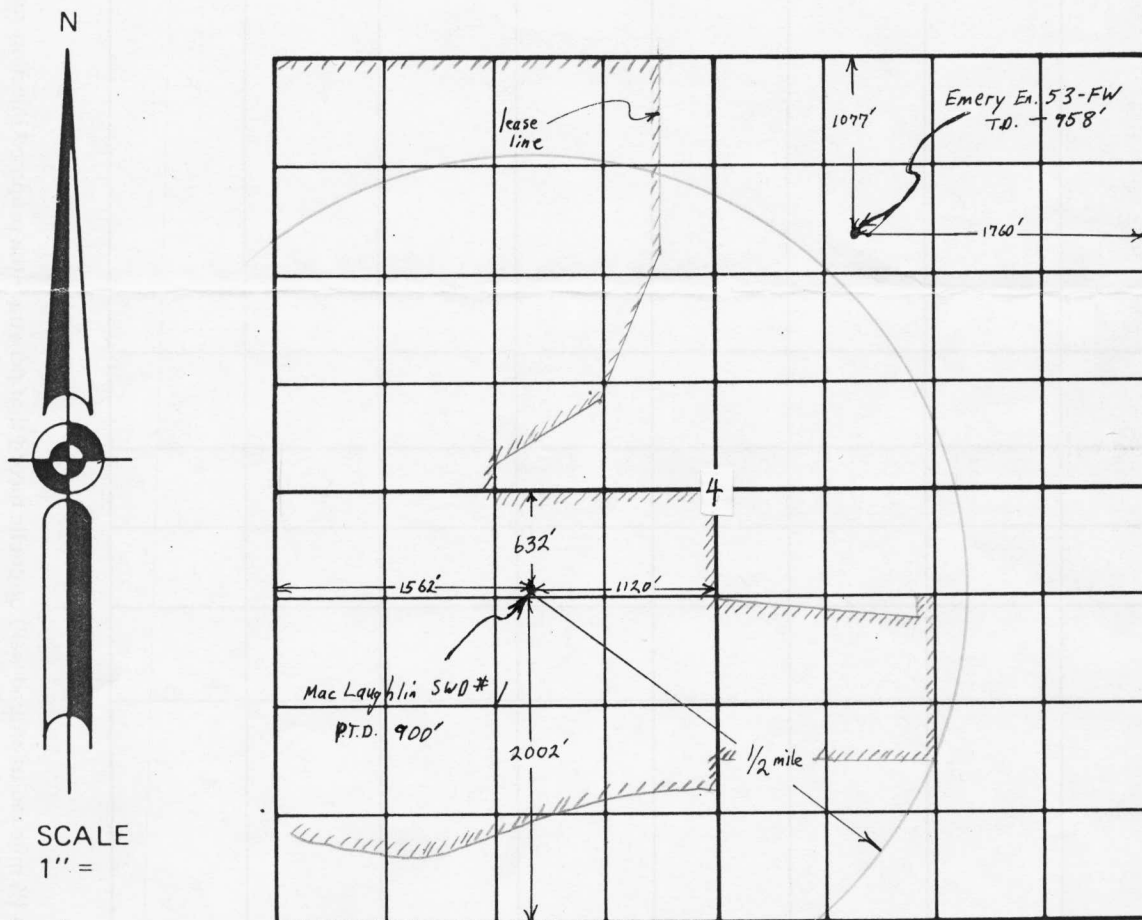
Form OGC-4-I
JUN 21 1982

Owner: Prairie Energy Corporation

MO. OIL & GAS COUNCIL

Lease Name: Mac Laughlin County: Cass

2002 feet from N section line and 1562 feet from W section line of Sec. 4, Twp. 46 N., Range 33 W
(N)-(S) (E)-(W)



REMARKS: no wells within 1/2 mile radius penetrate the injection interval

INSTRUCTIONS

On the above plat, show distance of the proposed well from the two nearest section lines, the nearest lease line, and from the nearest well on the same lease completed in or drilling to the same reservoir. Do not confuse survey lines with lease lines. See rule 10 CSR 50-2.030 for survey requirements. Lease lines must be marked.

This is to Certify that I have executed a survey to accurately locate injection and area of review wells (wells within a 1/2 mile radius of the injection well that penetrate the injection interval) in accordance with 10 CSR 50-2.030 and that the results are correctly shown on the above plat.

(SEAL)

Remit two copies to: Missouri Oil and Gas Council
P.O. Box 250, Rolla, MO 65401
One will be returned.

/s/ Howard L. Sherman (see survey plat also provided)
Registered Land Surveyor Number

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

New Well ☐ Workover ☐ Deepen ☐ Plug Back ☐ Injection ☒ Same Reservoir ☐ Different Reservoir ☐ Oil ☐ Gas ☐ Dry ☐

Owner Prairie Energy Corporation		Address 8600 West 110th Street Suite 202 Overland Park, Kansas 66210	
Lease Name MacLaughlin		Well Number SWD-1	
Location 2002' FNL, 1562' FEL		Sec., Twp., and Range or Block and Survey Sec. 4, T-46, R-33	
County Cass	Permit number (OGC 3 or OGC 31) 20367		
Date spudded	Date total depth reached 7/13/82	Date completed, ready to produce or inject	Elevation (DF, RKR, RT, or Gr.) feet 1040
Total depth 904'	P. B. T. D.		
Producing or injection interval(s) for this completion Bartlesville		Rotary tools used (interval) From 0' to TD Drilling Fluid used air/mud	Cable tools used (interval) From _____ to _____
Was this well directionally drilled? no	Was directional survey made?	Was copy of directional survey filed?	Date filed
Type of electrical or other logs run (list logs filed with the State Geologist) Electric/Gamma Ray Neutron			Date filed attached

CASING RECORD

Casing (report all strings set in well - conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb. ft.)	Depth set	Sacks cement	Amt. pulled
surface casing	6 3/4"	4 1/2"		900'	139	

TUBING RECORD

LINER RECORD

Size in.	Depth set ft.	Packer set at ft.	Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft.)
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PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number	Size & type	Depth Interval	Amount and kind of material used	Depth Interval
19	3 3/4 Torn. Jet	692-701, 701-710	180 bbl. water w/ 80 sacks	692-710

INITIAL PRODUCTION

Date of first production or injection about 7/23/82		Producing method (indicate if flowing, gas lift, or pumping -- if pumping, show size and type of pump)					
Date of test	Hrs. tested	Choke size	Oil produced during test bbls.	Gas produced during test MCF	Water produced during test bbls.	Oil gravity API (Corr.)	
Tubing pressure	Casing pressure	Cal'd rate of Production per 24 hours	Oil bbls.	Gas MCF	Water bbls.	Gas - oil ratio	

Disposition of gas (state whether vented, used for fuel or sold):

buried

Method of disposal of mud pit contents:

buried

CERTIFICATE: I, the undersigned, state that I am the Land Manager of the Prairie Energy Corporation (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

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OCT 20 1982

Signature

Stephen R. Hughes

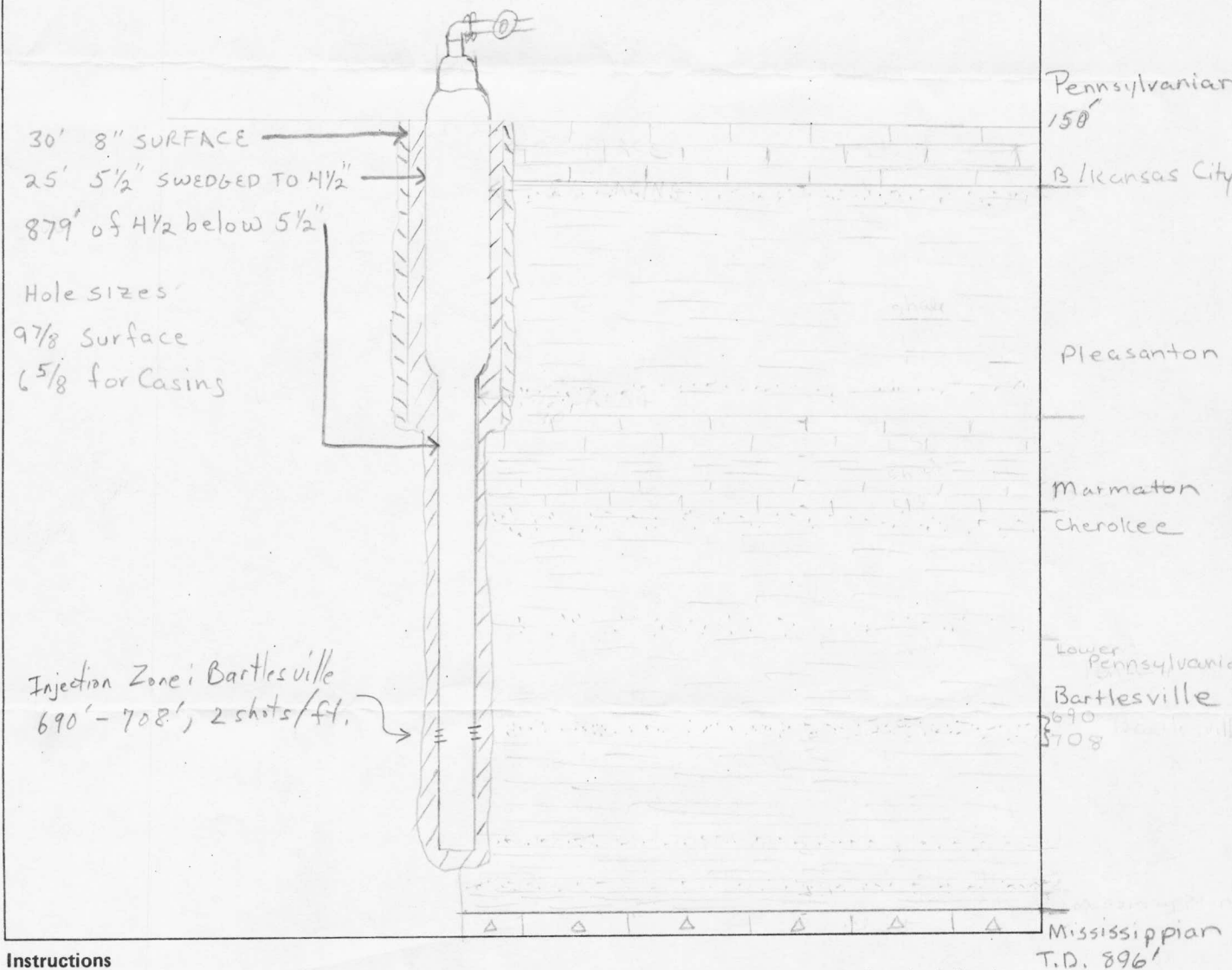
MO. OIL & GAS COUNCIL

3/12/1982

Missouri Oil and Gas Council
INJECTION WELL SCHEMATIC

Form OGC-11

Mac Laughlin SWD #1



Instructions

On the above space draw a neat accurate schematic diagram of the applicant injection well including the following: configuration of well head, total depth or plug back total depth, depth of all injection or disposal intervals, and their formation names, lithology of all formations penetrated, depths of the tops and bottoms of all casing and tubing, size and grade of all casing and tubing, and the type and depth of packer, depth, location, and type of all cement, depth of all perforations and squeeze jobs, and geologic name and depth to bottom of all underground sources of drinking water which may be affected by the injection. Use back if additional space is needed, or attach sheet.

LANGSTON LABORATORIES, INC.

Laboratory Report

Date Received: August 4, 1982
Time Received: 10:40 am
Date Completed: August 4, 1982

Submitted by: Prairie Energy Corporation
8600 West 110th Suite 202
Overland Park, KS 66210

Attn: Mr. Robert White

LLI Project No.: 82-8749

McGaughlin SWD #1

Sample Description: Water Sampled August 4, 1982 Near 165th and Holmes by
Mr. Keith Forrest of LLI.

Sample
Identification

Analysis

Results

Well Water
(10:10 am)

Chloride as NaCl

18,800 mg/liter

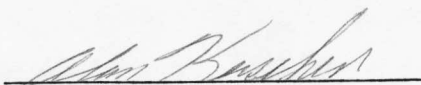
RECEIVED

AUG 09 1982

MO. OIL & GAS COUNCIL

Comments:

cc: Mo Dept of Nat'l Resources

Approved: 

Alan Kerschen
Laboratory Director

LANGSTON LABORATORIES, INC.

Laboratory Report

Date Received: July 30, 1982
Time Received: 1:45 pm
Date Completed: August 2, 1982

Submitted by: Prairie Energy Corporation
8600 West 110th Suite 202
Overland Park, KS 66210
Attn: Mr. Robert White

LLI Project No.: 82-8728

Sample Description: Water Sampled July 30, 1982 Near 165th and Holmes by
Mr. Keith Forrest of LLI.

Sample
Identification

Analysis

Results

Well Water
(1:25 pm)

Chloride as NaCl

19,200 mg/liter

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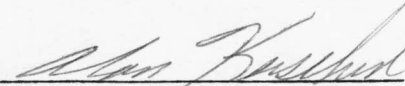
AUG 09 1982

MO. OIL & GAS COUNCIL

Comments:

cc: Mo Dept of Nat'l Resources

Approved:


Alan Kerschen
Laboratory Director

LANGSTON LABORATORIES, INC.

Laboratory Report

Date Received: August 2, 1982
Time Received: 8:40 am
Date Completed: August 2, 1982

Submitted by: Prairie Energy Corporation
8600 West 110th Suite 202
Overland Park, KS 66210
Attn: Mr. Robert White

LLI Project No.: 82-8738

Sample Description: Water Sampled August 1, 1982 Near 165th and Holmes by
Mr. Robert White

Sample
Identification

Analysis

Results

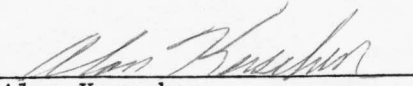
Production Water
(1:30 pm)

Chloride as NaCl

18,800 mg/liter

Comments:

cc: Mo Dept of Nat'l Resources

Approved: 

Alan Kerschen
Laboratory Director

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AUG 09 1982

MO OIL & GAS COUNCIL

MISSOURI

Mechanical Integrity Test

Test Date: 6/12/2007Operator: D.E. ExplorationAddress: P.O. Box 128Wellsville, Kansas 66092Contact: Doug EvansPhone: 785-883-4057Lease: MacLaughlinWell No.: SWD-1County: CassPermit No.: 20367

TEST INFORMATION

Pressure ☒Radioactive Tracer Survey ☐Temperature Survey ☐

	Run #1	Run #2	Run #3	Run #4
Start Time:	2:15			
End Time:	2:55			
Length of Test:	40 min			
Initial Pressure (PSI):	210			
Ending Pressure (PSI):	210			
Pressure Change:	0 #			

Fluid Used For Test (water, nitrogen, CO2, etc.): AirPerforations: 692-701, 701-710Comments: 692 - 211 = 481 ~~x~~ 433 = 207Fluid Level was 211' from Surface

The bottom of the tested zone is shut in with Fluid Depression at a depth of 692 feet.
In signing the form below, it is certified that the above indicated well was tested for mechanical integrity on the test date shown above.

Signature Doug Evans
Operator, Contact Person or Approved AgentContractor
Title

FOR INTERNAL USE ONLY

Results were: Satisfactory ☒ Not Satisfactory ☐ Computer Update: ☒

Remarks: _____

State Agent: _____ Witnessed: Yes ☐ No ☒

!! FILE WITH PERMIT !!

OGC Misc Form 1

RECEIVED

JUN 15 2007

Mo Oil & Gas Council

RECEIVED JUL 12 2002

Test Date: 7/8/02

Operator: D.E. Exploration
Contact Person: Doug Evans
Address: P.O. Box 128 Wellsville, Kansas 66092
Phone: _____

Lease Maclaughlin Well # SWD-1
County Cass Permit # 20367

TEST INFORMATION:Type MIT: Pressure XX Radioactive Tracer Survey _____ Temperature Survey _____

	<u>Run #1</u>	<u>Run #2</u>	<u>Run #3</u>
Start Time:	<u>12:15 PM</u>	_____	_____
End Time:	<u>12:55 PM</u>	_____	_____

Length of Test: :40
(Start Time minus End Time)

Initial Pressure (PSI): 200
Ending Pressure (PSI): 200

Pressure Change: 0
(Initial Pressure minus Ending Pressure)

Fluid used for test (water, nitrogen, CO2, ect.): Air

Comments about test: Perfs: 692 - 701; 701 - 710
Fluid Level was 267' from surface. $692 - 267 = 425 \times .43 = 183$

The bottom of the tested zone is shut in with _____
at a depth of _____ ft. In signing the form below, it is certified
that the above indicated well was tested for mechanical integrity on the
date shown at the top of this page.

Signed: *Mary W. Smith* Contractor _____
Operator Contact Person or Title
Approved Agent

DO NOT WRITE BELOW THIS LINE

Results were: Satisfactory XX Not Satisfactory _____
State Agent: *Theresa R. Felt* Witnessed: Yes X No _____

REMARKS: _____
Computer Update *MP 8/2/02* FILE WITH PERMIT!

OGC Misc Form 1

MECHANICAL INTEGRITY TEST REPORT

Test Date: 6-11-97

Operator: Colt Energy

Contact Person: Dennis Kershner

Address: P.O. Box 388 304 N Jefferson Iola KS 66749

Phone: 316-365-3111

Lease MacLaughlin Well # SWD-1

County Cass Permit # 20367

TEST INFORMATION:

Type MIT: Pressure ☒ Radioactive Tracer Survey ☐ Temperature Survey ☐

	<u>Run #1</u>	<u>Run #2</u>	<u>Run #3</u>
Start Time:	<u>2:05</u>		
End Time:	<u>2:40</u>		

Length of Test: 35
(Start Time minus End Time)

Initial Pressure (PSI): 360

Ending Pressure (PSI): 345

Pressure Change: 15
(Initial Pressure minus Ending Pressure)

Fluid used for test (water, nitrogen, CO2, ect.): Air

Comments about test: (PI: 692-701; 701-710) 60 PSI on well at startup. Calculated pressure 300 + 60 = 360 PSI.

The bottom of the tested zone is shut in with _____
at a depth of _____ ft. In signing the form below, it is certified
that the above indicated well was tested for mechanical integrity on the
date shown at the top of this page.

Signed: Steven W. Wandsch Contractor
Operator Contact Person or Title
Approved Agent

DO NOT WRITE BELOW THIS LINE

Results were: Satisfactory ☒ Not Satisfactory ☐
State Agent: EAK Witnessed: Yes ☒ No ☐

REMARKS: _____
Computer Update ☒ FILE WITH PERMIT!

July 23, 1982

Nicholas Powell
Prairie Energy Corporation
8600 West 110th Street
Suite 202
Overland Park, KS 66210

Dear Nicholas:

Concerning the mechanical integrity test performed on the MacLaughlin SWD #1 on July 20, 1982, this well demonstrated mechanical integrity as prescribed under rule 10 CSR 50-1.030(1)(N), and is therefore approved. This well will be scheduled for retesting sometime in 1987.

Sincerely,

Kenneth L. Deason, Geologist
Oil and Gas/Subsurface Geology Section

KLD/vf

PRAIRIE ENERGY CORPORATION

8600 WEST 110TH STREET

SUITE 202

OVERLAND PARK, KANSAS 66210

(913) 381-3807

February 16, 1984

Mr. Kenneth L. Deason
Missouri Department of Natural Resources
P.O. Box 250
Rolla, Missouri 65401

Dear Ken:

Prairie Energy Corporation operates the MacLaughlin lease located in Section 4, Township 46N, Range 33W in Cass County, Missouri. There is an injection well located on this lease, permit number 20367, which was originally permitted for injection pressures of up to 350 psi. However, we have found, due to the nature of the sand formation in which we are disposing, that it requires up to 450 psi pressure for injection of fluid into the formation. Therefore, we request that the maximum pressure allowed for injection of salt water into our disposal well be increased to 500 psi.

The well was tested for 1,000 psi, the casing is rated at 4,000 psi and the formation is 700 feet deep. Therefore, we can not see any problems that could arise by increasing the injection pressure.

Sincerely,



Nicholas K. Powell
President

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FEB 28 1984

MO. OIL & GAS COUNCIL

US ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF DRINKING WATER
WASHINGTON, DC 20460

UIC FEDERAL REPORTING SYSTEM

PART IV: QUARTERLY NONCOMPLIANCE REPORT
MAJOR INJECTION WELLSI. DATE PREPARED
(Mo, day, year)

January 24, 1984

II. STATE

Missouri

III. REGION

VII

IV. REPORTING AGENCY

Division of Geology and Land Survey -- Missouri

V. REPORT FOR QUARTER ENDING (Mo, day, year)

March 31, 1984

VI. PERMIT/FACILITY NUMBER

Prairie Energy SWD #1
M
Permit #20367
Facility #MoS000000006

VII. PERMITTEE NAME AND LOCATION

Prairie Energy Corp.
8600 West 110th Street, Suite 202
Overland Park, Kansas 66210

VIII. NATURE OF NONCOMPLIANCE(S) AND DATE(S) OF OCCURRENCE(S)

Field inspection: January 18, 1984; wellhead pressure 381 psi -- maximum pressure allowed 350 psi.

Location of well: MacLaughlin SWD #1 -- Permit #20367

2002' FNL and 1562' FWL

Sec. 4, T. 46N., R. 33W.

IX. DESCRIPTION AND DATE(S) OF ANY ACTION(S) TAKEN BY THE AGENCY (Identify agency)

Following field inspection of January 18, 1984 by Kenneth L. Deason, a letter dated February 3, 1984 was sent notifying Prairie Energy Corp. of this violation and requiring Prairie Energy Corp. to make corrective actions.

X. STATUS OF NONCOMPLIANCE (Provide date(s) of review or resolution)

Review: February 10, 1984 the injection rate of 381 psi was reviewed to determine if any significant effect to groundwater occurred.

In view of the fact that the well passed the MIT in July of 1982, at a pressure of 1000 psi, and the fracture pressure is theoretically over 1200 psi; these findings indicate little effect on the groundwater. Resolution: Prairie Energy Corp. has justified, in writing, the need for a higher injection pressure and has requested a change on the permit form raising the maximum injection pressure.

XI. MITIGATING CIRCUMSTANCES (if any)

XII. STATE CONTACT (Name, telephone number)

Kenneth L. Deason 314/364-1752

XIII. COMMENT

PLEASE REFER
TO THIS ACCOUNT
NUMBER WHEN
MAKING INQUIRIES

CONSOLIDATED OIL WELL SERVICES, INC.

P. O. Box 884

Chanute, Kansas 66720

PHONE (316) 431-9210

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AUG 06 1982

Account No. 6237	Invoice No. No 68077	Invoice Date 7/15/82	Job Ticket No. 15677	Nearest Town McLaughlin #1 swd
Lease and Well No. McLaughlin #1 swd			County	State

TO:

Prairie Energy
8600 W. 110th Suite 202
Overland Park, KS 66210

TERMS: Net 30 Days.

A Finance Charge computed at
1½% per month (annual per-
centage rate of 18%) will be
added to balances over 30 days.

Description	Quantity		Unit Price	Code	Amount
	Number	Unit			
Services:					\$
Pumping Charge — Cementing				12	379.00
Pumping Charge — Other				13	
				13	
Cement:					
Bulk Cement	139	Sack	4.90	19	681.10
				19	
Ton Mileage				20	266.46
Additives:					
Premium Gel	6	Sack	6.90	16	41.40
Flo Seal		Sack		15	
Calcium Chloride		Sack		15	
Other				15	
Equipment:					
Cementing Plug 4½	1	Each		21	20.00
Float Shoe		Each		21	
Centralizers		Each		21	
				21	
				21	
Transport and Vacuum:					
Transport Truck		Hour		17	
Vacuum Truck	4½	Hour	44.00	18	198.00
Fuel Surcharge				18	
Hauling		Hour		22	
		Hour		22	
				23	
				23	
				23	
Sales Tax				76	\$ 25.99
Total					\$ 1,611.95

A Finance Charge computed at
1½% per month (annual per-
centage rate of 21%) will be
added to balances over 30 days.

THANK YOU

White Copy—Keep for Your Records

Yellow Copy—Please Return with Your Remittance